



## DECISION NOTICE

### Westslope Cutthroat Trout Restoration in Elk Creek, Madison River Drainage FWP-SEA-Fisheries-R3-25-001

March 12, 2025

#### **ACTION**

Decision Notice (DN). Montana Fish, Wildlife & Parks (FWP) shall prepare a DN for the proposed action. The DN must identify the agency decision, the reasons for the decision, and any special conditions surrounding the decision or its implementation.

With this action, FWP hereby adopts the Draft Environmental Assessment or Draft EA as final, without modification, and approves Alternative 2, the proposed action.

#### **AUTHORITY: MONTANA ENVIRONMENTAL POLICY ACT**

According to the applicable requirements of the Montana Environmental Policy Act or MEPA and its implementing rules and regulations, before a proposed action may be approved, environmental review must be conducted to identify, consider, and disclose any potential impacts of the proposed action on the affected human environment. The level of environmental review will vary with the complexity and seriousness of environmental issues associated with a proposed action. The level of public interest will also vary. The agency is responsible for adjusting public review to match these factors. *Title 75, Chapter 1, Parts 1 through 3, Montana Code Annotated (MCA)*.

Based on these factors, FWP determined a Standard Draft EA constituted the appropriate level of review for the proposed action. Therefore, to assess and disclose potential impacts of the proposed action, FWP prepared a Draft EA for public review and comment. See *Public Participation Process* below.

Further, FWP must consider any substantive comments received in response to an EA and proceed in accordance with one of the following steps: determine the EA did not adequately reflect the issues raised by the proposed action and issue an Environmental Impact Statement or EIS; determine the EA did not adequately reflect the issues raised by the proposed action and issue a supplemental EA; or determine the Draft EA adequately addressed the issues raised by the proposed action and make a final decision, with appropriate modification resulting from the analysis provided in the Draft EA and the analysis of any substantive public comments received. See *Public Comment and FWP Response* below.

#### **PUBLIC PARTICIPATION PROCESS**

The Draft EA was made available for public review and comment from February 6 to March 8, 2025. The Draft EA was posted on FWP's Public Notice webpage: <https://fwp.mt.gov/news/public-notice>. The Draft EA was also made available for public review on the Environmental Quality Council or EQC website: <https://leg.mt.gov/mepa/search/>, by individual request, and through notice to identified interested parties

including neighboring landowners. FWP received one comment in support of the proposed action during the public comment period.

### **DESCRIPTION OF PROPOSED ACTION**

Montana Fish Wildlife and Parks (FWP) proposes to restore and maintain native Westslope Cutthroat Trout (WCT) in Elk Creek. Elk Creek is a tributary to the Madison River in southwest Montana. Historically, WCT, Arctic Grayling, and Mountain Whitefish were the only salmonid species in the Madison River. Within the proposed project area in Elk Creek, WCT was the only native salmonid present. Rocky Mountain sculpin are also present in Elk Creek. Currently, WCT are isolated to a small headwater section of Elk Creek and most of the stream is occupied by Brook Trout, which outcompete WCT for resources and will eventually extirpate them from the system. WCT in Elk Creek are distributed in 0.8 miles of stream with low genetic diversity. The likelihood of long-term persistence is low unless the population is expanded to at least five miles of stream.

Westslope Cutthroat Trout were first described by the Lewis and Clark Expedition in 1805 near Great Falls, Montana, and are recognized as one of 14 interior subspecies of Cutthroat Trout. The historical range of WCT includes parts of Idaho, Montana, Washington, Wyoming, and the Canadian provinces of British Columbia and Alberta. In Montana, WCT occupy the Upper Missouri River and Saskatchewan River drainages east of the Continental Divide, and the Upper Columbia Basin drainages west of the Continental Divide. Although widespread, the distribution and abundance of WCT populations in Montana has declined significantly in the past century due to introductions of non-native fish, habitat degradation, and overexploitation (Hanzel 1959, Liknes 1984, McIntyre and Rieman 1995, Shepard et al. 1997, Shepard et al. 2005). Reduced distribution of WCT is particularly evident in the Missouri River drainage where populations of nonhybridized WCT were estimated to persist in less than 5.5% of formerly occupied habitat, and most remaining populations were restricted to isolated headwater habitats (Shepard et al. 2003; Shepard et al. 2005). Many of the remaining populations are considered at risk due to their small population size, and most importantly, threats from non-native trout species such as competition, predation, and hybridization.

To advance WCT conservation efforts in Montana, a Memorandum of Understanding (MOU) and a Conservation Agreement for Westslope Cutthroat Trout in Montana was developed in 1999 by several federal and state resource agencies (BLM, FWP, USFS, and the National Park Service [NPS]), non-governmental conservation and industry organizations, tribes, resource users, and private landowners (FWP 1999: MOU). The MOU outlined goals and objectives for WCT conservation in Montana, which, if met, would significantly reduce the need for special status designations and listing of WCT under the Endangered Species Act (ESA). The MOU was revised and endorsed by signatories in 2007 (FWP 2007). As described in the MOU, the primary management goal for WCT in Montana is to ensure the long-term self-sustaining persistence of the subspecies in its historical range. To achieve this goal, the WCT Conservation Strategy for the Missouri River Headwaters of Southwest Montana was developed (Jaeger et al. 2022). A conservation population is defined as viable assemblage of WCT which have most recently tested genetically as  $\geq 90\%$  WCT. Within the conservation population designation, a core population is defined as containing  $< 1\%$  introgression from nonnative species. This strategy describes specific, measurable objectives to ensure the long-term persistence of WCT in southwest Montana. The highest priority of the strategy is to secure existing, core populations of WCT in place to conserve the remaining genetic diversity left on the landscape. Secure WCT populations are isolated from non-native species (usually by a fish barrier) and occupy enough habitat to ensure long-term persistence. Hilderbrand and Kershner (2000) recommended a minimum WCT population size of 2,500 fish for long-term persistence ( $> 100$  years) and Harig and Fausch (2002) recommended a minimum of 5.6 square miles (minimum watershed size) of occupied habitat.

According to the Westslope Cutthroat Trout Conservation Strategy for the Missouri River Headwaters of Southwest Montana, the long-term goal for WCT conservation is to restore protected conservation populations of WCT to 20% of their historic tributary distribution east of the Continental Divide (Upper Missouri River Basin upstream from and including the Judith River; FWP 2023). Mainstem rivers, such as the Madison River, support important non-native recreational fisheries (i.e., Brown and Rainbow Trout) and are not part of this conservation goal. FWP recognizes the value of non-native trout fisheries and will continue to manage 80% of the tributary streams in the Missouri Headwaters for non-native fish such as Brook, Rainbow, and Brown Trout (FWP 2023). In the Madison River sub-basin, WCT historically occupied approximately 1,461 miles of tributary streams and rivers. Today there are a total of 22 remaining WCT populations in small headwater tributaries, which occupy just over 200 miles of stream (14% of their historic range). Of these remaining 22 WCT populations, approximately 50% are at risk due to competition and hybridization with non-native fish. Data collected from streams in the Madison River sub-basin over the past 15 years indicate that many of the WCT populations in the drainage have dramatically declined or have been extirpated (Jaeger et al. 2021). Projects that protect at-risk populations of WCT, such as that proposed for Elk Creek, are necessary to ensure the continued survival of the species, conserve remaining genetic diversity, and meet statutory obligations to prevent listing under the ESA. This approach to WCT conservation is described in the Montana Statewide Fisheries Management Plan (FWP 2023). Elk Creek is a tributary to the Madison River in the Madison Valley. The fishery of Elk Creek consists of Brook Trout, WCT, and Rocky Mountain sculpin. The introduction of Brook Trout has relegated the remaining WCT population to approximately 0.8 miles of the Elk Creek headwaters.

FWP proposes to conserve native WCT and expand their range in the Elk Creek drainage. Elk Creek is a tributary to the Madison River in southwest Montana. Historically, WCT, Arctic Grayling, and Mountain Whitefish were the only salmonids in the Madison Valley. However, the population of WCT in the Elk Creek Drainage has diminished due to competition with non-native Brook Trout. Genetic testing has shown the population to be < 1% introgressed with non-native species and is therefore considered a core population. However, the genetic variation of Elk Creek WCT has been reduced due to isolation and small population size, and the population must be expanded to increase its likelihood of long-term persistence.

Brook Trout upstream of the fish barrier would be removed using rotenone, a naturally derived chemical from plants that is highly effective at killing fish, with few impacts on non-target organisms. Rotenone acts by inhibiting oxygen transfer at the cellular level and is effective on fish at low concentrations because it is readily absorbed into the bloodstream through the gills. To prevent rotenone from affecting fish outside the treatment area, potassium permanganate (KMnO<sub>4</sub>) would be applied to treated water to neutralize rotenone at the fish barrier. Potassium permanganate is a strong oxidizer and quickly degrades rotenone (Engstrom-Heg 1971, Engstrom-Heg 1976; see Direct Impacts to Water Quality Section p 18 for more information). Consumption of rotenone-treated waters or dead fish by avian or terrestrial animals poses little threat as digestive processes readily degrade rotenone and it is not readily absorbed through the digestive tract. Therefore, terrestrial and avian animals can tolerate exposure to concentrations much higher than those used to kill fish. Rotenone does have temporary adverse impacts on gill-breathing aquatic invertebrates. However, studies have shown that at low concentrations and short exposure time, invertebrates typically recover within one year after waters are treated with rotenone (Kjaerstad et al. 2022; Finlayson et al. 2010; Pham et al. 2017). Similarly, zooplankton communities may see temporary reductions but would be expected to rebound in less than one year (Kiser et al. 1963, Hughey 1975). Rotenone-treated waters pose minimal risk to terrestrial wildlife and humans; however, per rotenone label requirements, public access to the Elk Creek drainage will be prohibited during the 2–5-day treatment period.

The primary benefit of this project is the long-term conservation of at-risk WCT populations in the Upper Missouri River. The top priority for WCT conservation in southwest Montana is to protect all remaining at-risk core populations of WCT (Jaeger et al. 2021). This project would expand the distribution of protected WCT by approximately eight miles and serve as an additional source of aboriginal Madison River WCT for future introductions. Collectively, conservation projects like the one proposed for Elk Creek are intended to preserve the existing genetic variation of extant WCT populations and expand the species' current distribution to ensure it's long-term, self-sustaining persistence while continuing to manage the vast majority of habitat (80%) for nonnative fish like Brook Trout, Rainbow Trout, and Brown Trout (FWP 2023).

### **PURPOSE AND NEED**

FWP is required to manage fish to prevent the need for listing as Threatened or Endangered under the ESA. Further, fish that are listed as Species of Special Concern, Sensitive Species, Special Status Species, or species that are candidates for listing under the ESA must be managed in a manner that assists in the maintenance and/or recovery of the species (§ 87-5-107, MCA). Montana state law provides FWP with the authority to implement fish management and restoration projects (MCA § 87-1-702; § 87-1-201[9][a]) and allows the use of chemicals to remove fish (ARM 12. 7. 1503[1][f][ii]). ESA listing of a species can have significant economic and political consequences. Restoration actions like the proposed project help Montana fulfill their obligation to conserve native species and avoid ESA listing.

The purpose of the proposed project is to protect and expand the native WCT population in Elk Creek, a tributary of Madison River, by removing non-native Brook Trout upstream of a constructed fish barrier.

Benefits of the proposed project include the following:

- Ensure continued survival of WCT in the Madison River drainage (i.e., Elk Creek)
- Conserve remaining genetic diversity in the affected WCT populations.
- Meet Montana's statutory obligation to prevent the listing of WCT under the ESA.
- Satisfy the conservation objectives of the following guiding documents:
  - Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout in Montana (2007)
  - WCT Conservation Strategy for the Missouri Headwaters of Southwest Montana (2022)

### **ALTERNATIVES ANALYZED**

#### **Alternative 1: No Action**

In addition to the proposed action, and as required by MEPA, FWP analyzes the "No-Action" alternative in the EA. Under the No-Action alternative, the proposed action would not occur. Therefore, no additional impacts to the human environment would occur. The No Action alternative forms the baseline from which the potential impacts of the proposed action may be measured.

Under the No Action alternative, Brook Trout would not be removed from the headwater of Elk Creek, which would leave the existing population of WCT vulnerable to extirpation and fail to achieve the goals of the WCT Conservation Plan.

#### **Alternative 2: Proposed Action**

Under the Proposed Action, rotenone would be administered by trained FWP personnel following label requirements, FWP's Standard Operating Procedures Manual, and the FWP Piscicide Policy. Formulated rotenone (5% active ingredient) would be applied at the label recommended rate for streams (1 part formulated rotenone to 1 million parts of stream water) with drip stations, which are containers that precisely administer diluted rotenone to the stream at a constant rate for 4 hours. In addition, backwaters, spring areas, and small tributaries would be treated with backpack sprayers according to label

specifications. Treatment of Elk Creek would take 2-5 days and repeated in at least one consecutive year to ensure complete fish removal (Lampton et al. 2023).

The year following the second rotenone treatment, environmental DNA (eDNA) sampling would be used to verify if all fish in the stream were removed (Carim et al. 2020). eDNA is a method to detect the DNA shed by organisms into the environment by sequentially filtering stream water collected throughout the treatment area. If fish are present, their DNA is identified on the filter and an approximate location of the fish can be determined from where in the drainage the sample was collected. This technique has proven effective at detecting a single fish within an entire watershed (Carim et al. 2020). If eDNA sampling indicates that Brook Trout remain after two consecutive annual treatments, additional localized treatments would occur until the stream is confirmed to be fishless upstream of the barrier.

Following the removal of non-native fish, unaltered WCT from the isolated headwaters of Elk Creek would be allowed to occupy 8 miles of the stream. After treatment, WCT in Elk Creek would be monitored over the next 5-10 years to document their expansion in the drainage. Experience from other projects indicates that salvaged WCT released back to the stream following non-native trout removals will fill the available habitat within 3-6 years (Clancy et al 2019; Olsen 2020; Feuerstein 2022).

#### **PUBLIC COMMENT AND FWP RESPONSE**

FWP received the following public comment in support of the proposed action: “I fully support the Westslope Cutthroat trout restoration project on Elk Creek. We need to do everything possible to support this beautiful native fish for future generations to enjoy.”

FWP provided the following response through email: “We appreciate your support for the proposed project on Elk Creek and encourage you to submit public comments when the FWP Commission considers the project later this spring.”

#### **DECISION**

Based on the environmental review provided in the Draft EA, and in accordance with all applicable laws, rules, regulations, and policies, FWP determined the proposed action (Alternative 2), will not have significant adverse impacts on the human environment associated with the proposed action and constitutes a reasonable and appropriate strategy to achieve identified objectives. Therefore, preparation of an EIS is unnecessary. FWP hereby adopts the Draft EA as final and approves the Alternative 2, the proposed action.

With this DN, FWP hereby adopts the Final EA, with modifications, and approves the proposed action.

Sincerely,

A handwritten signature in cursive script that reads "Kelly Proffitt".

Kelly Proffitt  
Region 3 Supervisor